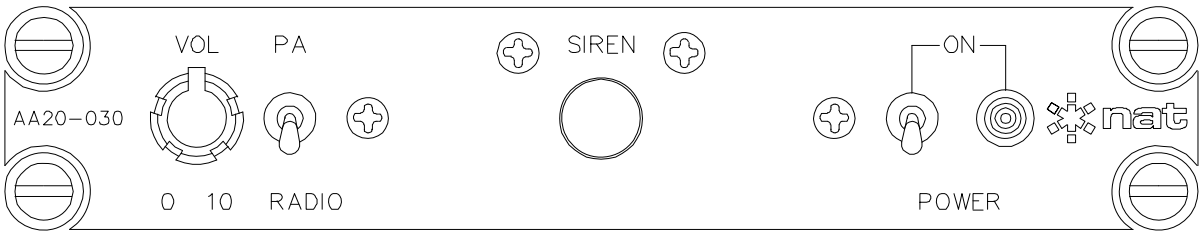
Installation and Operation Manual

AA20 Series
PA/Siren System



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ISSUE 4.01

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IMPORTANT INFORMATION

This manual has been produced to provide information unique to the AA20 Series PA/Siren System. Some of this information has been published previously in the SM02 Service manual (AA20/22/23, PA110/220 Series Loudhailer/PA Systems).

The information presented in this manual is for reference purposes only and is intended to provide general information that can be used by the installer/technician to gain a fundamental understanding of the product. It is not intended to cover all variations of the AA20 Series audio controllers. Drawing packages for specific AA20 units can be requested from NAT by contacting the Product Support Department.

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Prepared By:	Checked By:	Approved By:
NAT 287	NAT 284 NAT 255	NAT 114

The status of this installation and operation manual is controlled by issue shown on the title page. The status of each section is controlled by revision shown in the footer of each page. All revisions affecting sections of this manual have been incorporated into the latest issue.

ISSUE/REVISION RECORD

Manual Issue Number	Section Revision Number	Revision Description	Issue Date
4.01	Section 1 Rev: 1.00 Section 2 Rev: 1.00 Section 3 Rev: 1.00	Update to current templates.	Jun 26, 2008

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Section 1 Description

1.1 Introduction

Information in this section consists of product description, design features and specifications for the AA20 Series PA/Siren System. All derivative product information shall be contained in the applicable manual supplement, which may be obtained from NAT as required.

Review all notes, warnings and cautions.

1.2 Product Description

The AA20 PA/Siren systems are compact, self-contained systems capable of 30 W of output power. They provide a centralized control for audio paging both inside and outside the aircraft.

The AA20 PA/Siren systems are usually used for sling load control and local external paging in smaller airframes, or internal paging in larger airframes.

1.3 Design Features

The main functions of the AA20 include selection of audio sources for the paging audio and siren for alerting. Microphone interfacing is accomplished from either an AA9X/AMS4X series audio controller, or a 'carbon equivalent' microphone. An external radio feed is provided. The internal siren is adjustable for tone, rate and level. Provision is made for external power switching to allow PA110/220 power amplifiers to be connected for increased power output.

All external interconnects and switches are gold plated for maximum reliability. All switches are sealed. G10-FR flame-retardant circuit boards are post coated for maximum moisture resistance and corrosion prevention.

1.4 Specifications

1.4.1 Electrical Specifications

Power	+22 to 32 Vdc (28 Vdc nominal) at 2.2 A max. (excluding lamps), 0.25 A idle current
Lamps	2 lamps for 28 Vdc operation @ 80 mA max load
Input	2.5 Vrms at 600 Ω (Radio and PA). Impedance 1 kΩ
Output	30 Wrms max. @ 1 kHz into 8 Ω
Microphone	Industry standard 'carbon equivalent' amplified dynamic microphone preferred. Min. 200 mV output required into 150 Ω David Clark M1/DC, or M4 recommended

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Power Key	External switched +28 Vdc @ 250 mA max. available to activate remote PA110/220 amplifiers
Key Logic	Ground-seeking inputs for all lines

1.4.2 Physical Specifications

Height	1.12" (28.4 mm) max.
Depth	6.56" (166.6 mm) max. (behind panel)
Width	5.76" (146.3 mm) max. (front panel) 5.01" (127.3 mm) max. (rear enclosure)
Weight	1.1 lbs (0.5 kg) (excluding mating connector)
Mounting	Standard Dzus Mounting (four fasteners)

1.4.3 Environmental Specifications

Temperature	-20 to +55°C (ambient)
Altitude	35,000 feet max.
Humidity	95% Non-condensing
Shock	12g (any axis)

1.5 Unit Nomenclature

AA20-030	Standard swept siren, adjustable rate/tone Mode select, PA/Radio monitor 30 W output into 8 Ω PA and Siren override at all times Radio Monitor function +28 Vdc switched power output Use with PA110 and PA220 series amplifiers
AA20-050/050H	Standard swept siren, adjustable rate/tone Mode select: Internal/External PA 30 W output into 8 Ω PA and Siren override at all times Radio Monitor function Use with PA110 and PA220 series amplifiers Adjustable internal level (-050 = 4 W, -050H = 25 W max.)

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AA20-430	3 tone chime, adjustable rate/tone Mode select: PA/Tape 25 W output into 8 Ω PA override at all times Seatbelt chime interlock Sidetone output, chime with PA key

Section 1 ends

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Section 2 Installation

2.1 Introduction

Information in this section consists of unpacking and inspection procedures, installation procedures, post-installation checks and installation drawings for the AA20 Series PA/Siren System.

Review all notes, warnings and cautions.

2.2 Unpacking and Inspection

Unpack the equipment carefully and locate the warranty card. Inspect the unit visually for damage due to shipping and report all such claims immediately to the carrier involved. Check that all items listed below are present before proceeding and report any shortage immediately to your supplier:

- Warranty Card
- Operators Manual
- Certificate of Conformity or Release Certification

2.2.1 Warranty

All Northern Airborne Technology Ltd. products are warranted for 2 years from date of installation by an authorized NAT dealer, to be free of defects in workmanship or performance. This warranty covers all materials and labour, but is exclusive of any transport to deliver the defective unit to and from NAT or its designated warranty repair center, or any labour to remove or re-install the defective unit in the aircraft. Contact NAT for any questions regarding this warranty, its applicability to your units and/or for return authorization. NAT is the final arbitrator concerning warranty administration. Units which have been physically damaged, burned, immersed in water or otherwise abused beyond the scope of normal use will not be considered for warranty. **WARRANTY IS VOID UNLESS THE PRODUCT IS INSTALLED BY AN AUTHORIZED NAT DEALER**. Product for which a warranty card is not returned shall be warranted from date of manufacture.

2.3 Continued Airworthiness

Maintenance of the AA20 Series PA/Siren System is ‘on condition’ only. Periodic maintenance of this product is not required.

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2.4 Installation Procedures

2.4.1 Warnings

WARNING:
The AA20 is a high power device, capable of producing tones at very high volume levels. Ensure that all personnel are well clear of the aircraft prior to keying the siren or PA. Failure to adhere to this warning could cause injury to personnel and/or damage to equipment.

2.4.2 Cautions

CAUTION:
Use shielded cable exactly as shown and ground as indicated. All audio installations can be severely degraded by incorrect wiring and shielding. Unusual buzzes, hums or other background audio are symptomatic of multiple grounds, or noisy external systems such as blowers or pumps sharing wiring with the audio system. Never operate any of these units below their 8 Ω rated impedance.

2.4.3 Cabling and Wiring

All wire shall be selected in accordance with the original aircraft manufacturer's Maintenance Instructions or AC43.13-1B Change 1, Paragraphs 11-76 through 11-78. Unshielded wire types shall qualify to MIL-W-22759 as specified in AC43.13-1B Change 1, Paragraphs 11-85, 11-86, and listed in Table 11-11. For shielded wire applications, use Tefzel MIL-C-27500 shielded wire with solder sleeves (for shield terminations) to make the most compact and easily terminated interconnect. Follow the connector map in Section 2.7 as required.

Allow 3" from the end of the shielded wiring to the shield termination to allow the connector hood to be easily installed. Reference the interconnect drawing in Section 2.7 for shield termination details. Note that the hood is a "clamshell" hood, and is installed after the wiring is complete. Aircraft harnessing shall permit the unit to be lowered from the panel for easy access to all side adjustments. Do NOT mount the unit until all adjustments have been performed.

Maintain wire segregation and route wiring in accordance with the original aircraft manufacturers Maintenance Instructions.

Unless otherwise noted, all wiring shall be a minimum of 22 AWG, except power and ground lines, which shall be a minimum of 20 AWG. Reference the Interconnect drawing for additional specifications. Check that the ground connection is clean and well secured, and that it shares no path with any electrically noisy aircraft accessories such as blowers, turn and bank instruments or similar loads. Power to this unit must be supplied from a separate circuit breaker or fuse (fast blow), and not attached to any other circuit breaker without additional protection. Verify that the selected circuit breaker size and wire gauge are adequate for the installation using the techniques specified in AC43.13-1B Change 1, Paragraphs 11-47 through 11-51 and 11-66 through 11-69.

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2.4.4 Post Installation Checks

2.4.4.1 Voltage/Resistance Checks

Do not attach the AA20 until the following conditions are met.

Check the following for all models of AA20:

a) Check P101, pins 1 and 2 for +28 Vdc relative to ground.
b) Check P101, pins 14, 15 and 16 for continuity to ground (less than 0.5 Ω).
c) Check P101, pin 3 for the presence of the lamp dimmer voltage.
d) Check P101 pins 4, 5, 6 and 7 for infinite resistance to ground (> 10 MΩ).
e) Check P101 pin 10 (AA20-030, -050, -050H) or pin 12 (AA20-430) for continuity to ground (below 0.5 Ω). This ground is installation specific and may be a 'hard' ground or supplied by a momentary switch (siren/chime trigger).

Check the following for AA20-030 and AA20-430:

f) Check P101, pin 4 for continuity to pin 5 (less than 0.5 Ω).
g) Check P101, pin 6 for continuity to pin 7 (less than 0.5 Ω).
h) Check P101, pin 4 to pin 6 for 8 Ω (speaker connected).

Check the following for AA20-050 and AA20-050H:

i) P101 pin 4 to pin 6 for 8 Ω (speaker connected) or 300 Ω (PA110/220 connected).
j) P101 pin 5 to pin 7 for 8 Ω (speaker connected).

2.4.4.2 Power On Checks

Power up the aircraft's systems and confirm normal operation of all functions of the AA20. Refer to Section 3 (Operation) for specific operational details.

a) Turn on all of the radios and other accessories required for this system. Check that the POWER ON LED on the AA20 illuminates when the power switch is selected to ON.
b) Key the siren using the front panel button and/or remote siren key. The siren should sound and the level should be at maximum volume (the front panel level control does not affect the siren). If the siren (rate or tone) needs adjustment use the trimpots on the left side of the AA20. Refer to section 2.5 for details.
c) Configure the audio system as required to allow connection of the pilot's mic to the PA and key the cyclic switch for transmit. The mic audio should be heard on the PA speakers. Adjust the front panel level control for the desired volume.
d) Check preset adjustments are completed before aircraft departure.

Notes: 1. PA audio has priority in the AA20 system, and it will be heard even if the panel switch is selected to RADIO. Check for correct radio operation and note the volume settings that produce a suitable external paging level.

2. A faint audio signal may be heard at the speaker (even when the system is not paging) due to the very high gain of this system and stray coupling in the wiring. It should not be audible in flight.

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Upon satisfactory completion of all performance checks, make all required log book entries, electrical load, weight and balance amendments and other documentation as required by your local regulatory agency before releasing the aircraft for service.

2.5 Adjustments and Connections

If the siren does not suit the specific requirements of a given installation, the following adjustments are available:

1. Base tone setting - potentiometer marked TONE
2. Sweep rate setting - potentiometer marked RATE

These controls are accessible through holes on the left side of the unit, as shown in Figure 1 below.

Figure 1: Adjustments

2.6 Accessories Required But Not Supplied

Installation kit p/n AA20-IKC (crimp) is required to complete the installation. The kit consists of the following:

Quantity	Description	NAT Part No.
1	D-min 25 Socket Housing	20-21-025
25	MS Crimp Socket	20-26-901
1*	Jack Screw Set	20-27-002
1*	Lock Clip Set	20-27-004
1	25 Pin Connector Hood	20-29-026

* Use as required.

2.7 Installation Drawings

The information presented in this manual is for reference purposes only, and is intended to provide general information that can be used by the installer/technician to gain a fundamental understanding of the product. It is not intended to cover all variations of the AA20 Series audio controllers. Drawing packages for specific AA20 units can be requested from NAT by contacting the Product Support Department.

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DOCUMENT	REV.	DESCRIPTION	TYPE
AA20-030			
AA20\030\302-20-030A	1.00	PA/Siren System	Block Diagram
AA20\030\403-0	1.01	PA/Siren System	Interconnect
AA20\030\405-0	1.02	PA/Siren System	Connector Map
AA20\030\905-0	1.10	PA/Siren System	Faceplate
AA20\030\922-0	1.01	PA/Siren System	Mechanical Installation
AA20-050			
AA20\050\302-20-050A	1.00	PA/Siren System	Block Diagram
AA20\050\403-20-050A	1.00	PA/Siren System	Interconnect
AA20\050\405-0	1.01	PA/Siren System	Connector Map
AA20\050\905-0	1.10	PA/Siren System	Faceplate
AA20-050H			
AA20\050\302-20-050A	#	PA/Siren System	Block Diagram
AA20\050\403-20-050A	#	PA/Siren System	Interconnect
AA20\050\405-0	#	PA/Siren System	Connector Map
AA20\050H\905-0	1.00	PA/Siren System	Faceplate
AA20-430			
AA20\430\302-20-430A	1.00	PA/Siren System	Block Diagram
AA20\430\403-0	1.01	PA/Siren System	Interconnect
AA20\430\405-0	1.01	PA/Siren System	Connector Map
AA20\430\905-0	1.01	PA/Siren System	Faceplate

Section 2 ends following the above documents

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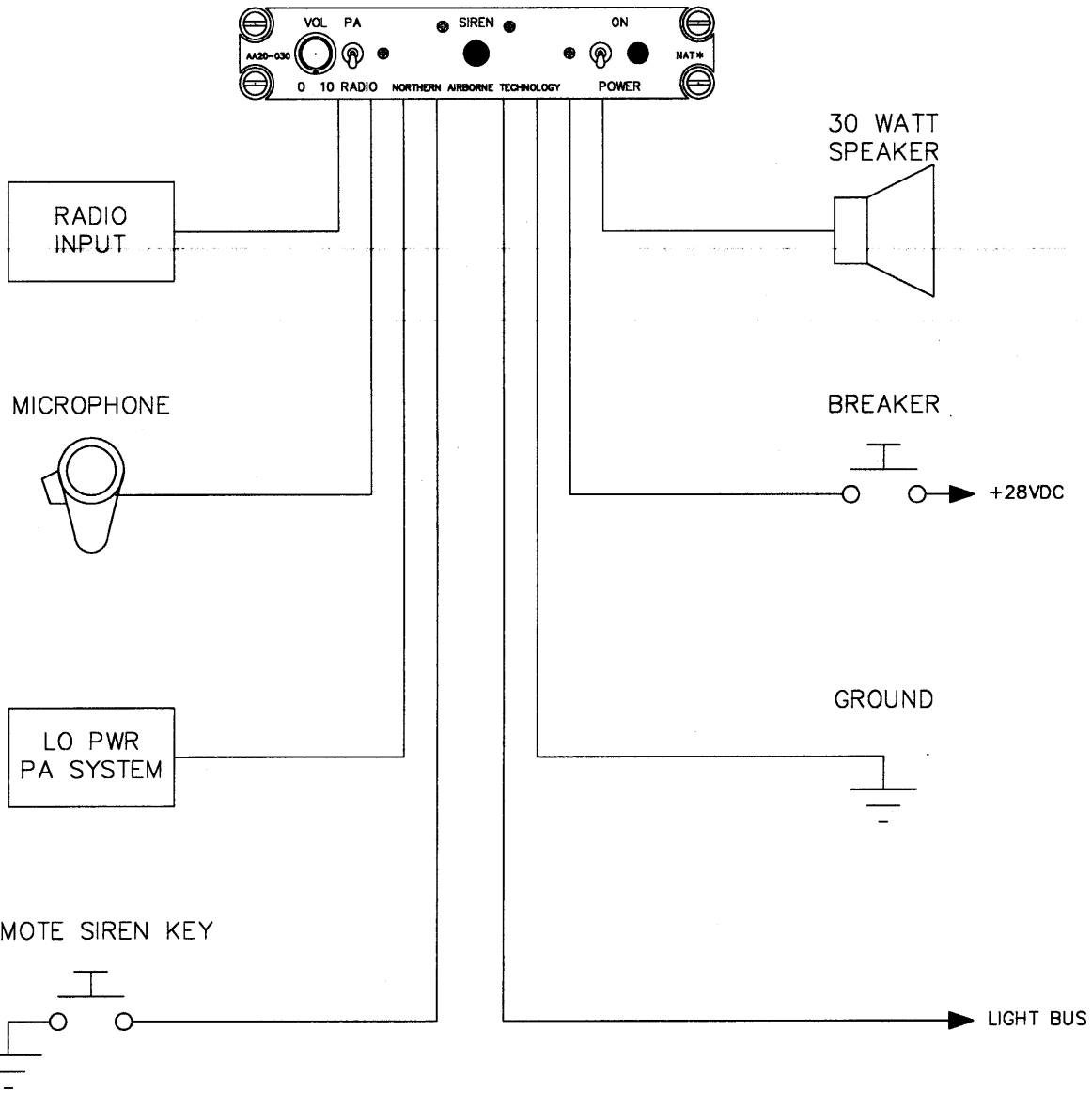
AA20–030 LOUDHAILER



DOCUMENT ALTERATION

CR No.: MANCR01208

Altered By: John Beaulne Date: Dec 4, 2008

Approved By: [signature] Date: 12/4/08

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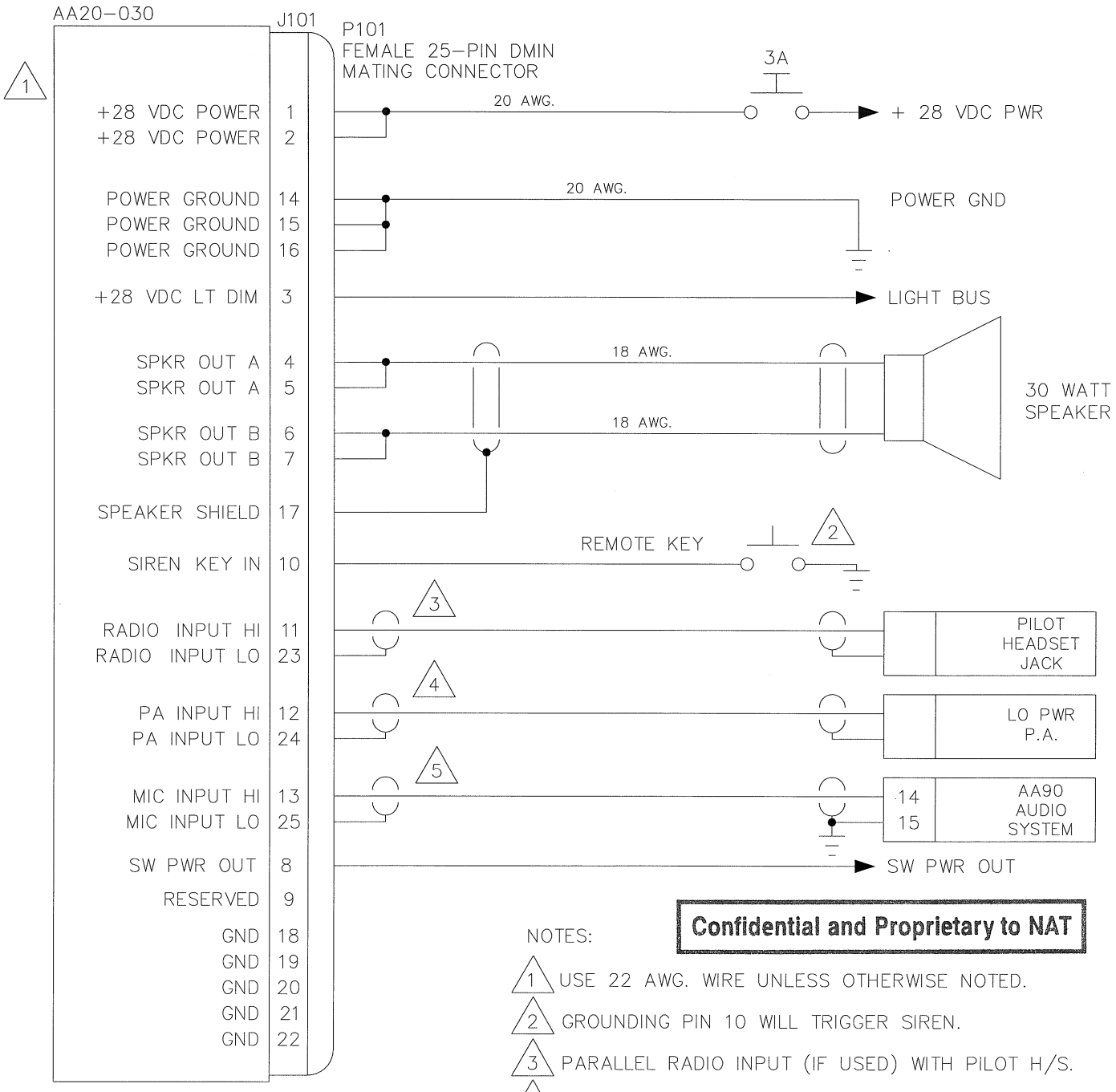
REVISION	DATE
1.00	Dec 4/08

NORTHERN AIRBORNE TECHNOLOGY LTD.
1839 1ST AVE. PRINCE GEORGE , B.C. V2L–2Y8

DESCRIPTION	PART NUMBER	DRAWING NUMBER
BLOCK DIAGRAM	AA20–030	302–20–030A
DATE	DRAWN BY	APPROVED BY
NOVEMBER 13/85	KEN VEITCH	NAT R&D

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.01	FORMAT CHANGES, DRAWING CORRECTIONS	MAY 10/96	MWS



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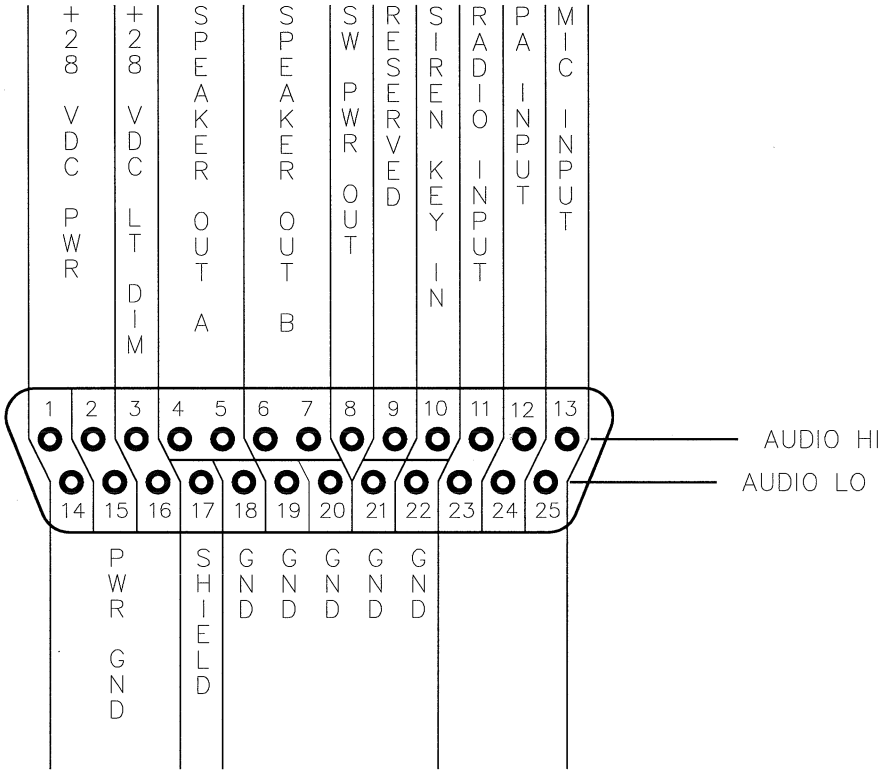
NOTES:

1. USE 22 AWG. WIRE UNLESS OTHERWISE NOTED.
2. GROUNDING PIN 10 WILL TRIGGER SIREN.
3. PARALLEL RADIO INPUT (IF USED) WITH PILOT H/S.
4. UP TO 5W PA INPUT FROM EXISTING SYSTEM.
5. PIN 25 MUST BE GROUNDED AT AUDIO CONTROLLER OR OTHER SINGLE POINT.

DESIGNED	KV	nat NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	KV					
DATE	JUL 23/90	TITLE	PA/SIREN SYSTEM			
CHECKED	NAT PROD. 130					
APPROVED	NAT 107	SIZE A	CAGE CODE 3AB01	PART NO. AA20-030	REV. 1.01	SHEET 1/1
FILE 403-0101.DWG		DWG. TYPE INTERCONNECT		DWG. NO. AA20\030\403-0		

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.01	FORMAT CHANGES	FEB 14/96	MWS
1.02	FORMAT CHANGES, DRAWING CORRECTIONS	MAY 10/96	MWS

P101
FEMALE 25 PIN D-MIN
MATING CONNECTOR



VIEW IS FROM REAR OF AIRFRAME CONNECTOR

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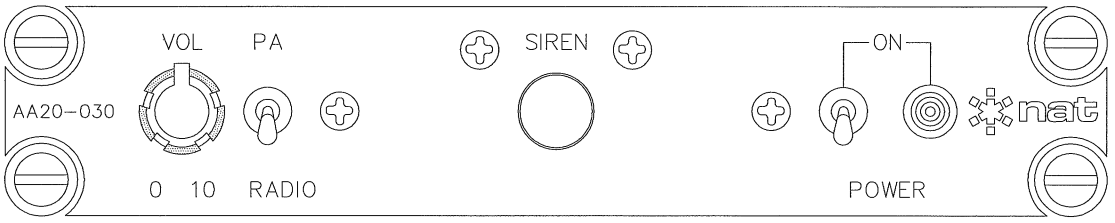
DESIGNED	KV	nat NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	MWS					
DATE	NOV 20/90	TITLE	PA/SIREN SYSTEM			
CHECKED	NAT PROD 130					
APPROVED	NAT 107	SIZE A	CAGE CODE 3AB01	PART NO. AA20-030	REV. 1.02	SHEET 1/1
FILE 405-0102.DWG		DWG. TYPE CONNECTOR MAP		DWG. NO. AA20\030\405-0		

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.10	REMOVE NORTHERN... ENGRAVING, FORMAT CHANGES	MAR 25/96	MWS



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DESIGNED	KV	nat NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	KV					
DATE	JUL 25/90	TITLE	PA/SIREN SYSTEM			
CHECKED	NAT 106					
APPROVED	NAT 107	SIZE A	CAGE CODE 3AB01	PART NO. AA20-030	REV. 1.10	SHEET 1/2
FILE 905-0110.DWG		DWG. TYPE FACEPLATE		DWG. NO. AA20\030\905-0		

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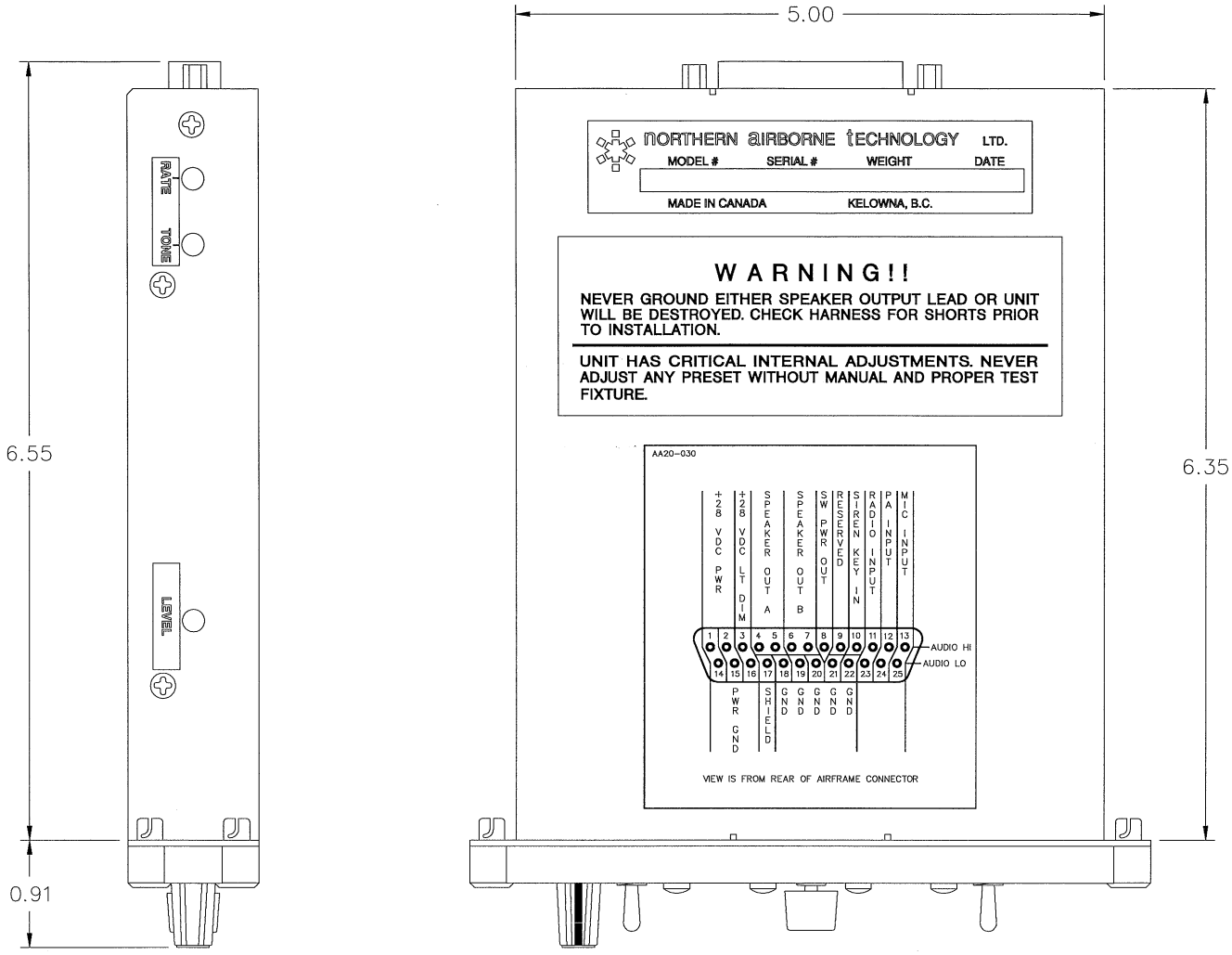
1.01	FORMAT CHANGES ONLY	OCT 18/96	MWS



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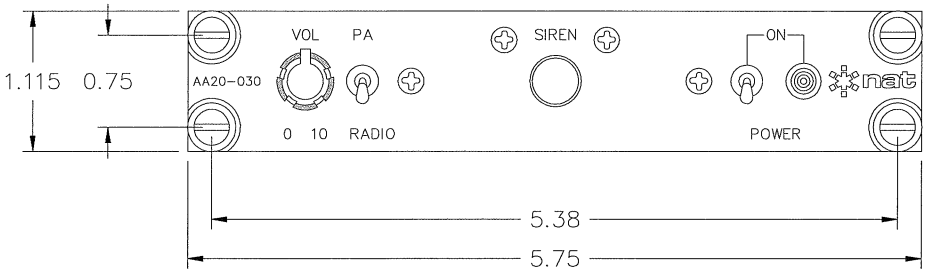

NOTE:

LABELS AND FACEPLATE WILL VARY WITH MODEL NUMBER.

TOLERANCES UNLESS STATED OTHERWISE 0.X=+/−0.030 0.XX=+/−0.010 0.XXX=+/−0.005 0.XXXX=+/−0.002 ANGLE=+/− 0.5 DEG.	DIMENSIONS IN INCHES THIRD ANGLE PROJECTION	DESIGNED KV DRAWN KV DATE FEB 17/95 CHECKED NAT PROD. 130 APPROVED NAT 107	nat NORTHERN AIRBORNE TECHNOLOGY LTD.				
MATERIAL FINISH		FILE 922−0101	TITLE: PA/SIREN/LOUDHAILER SYSTEMS				
			SIZE: A	CAGE CODE: 3AB01	PART NO.: AA20/AA22	REV.: 1.01	SHEET: 1/1
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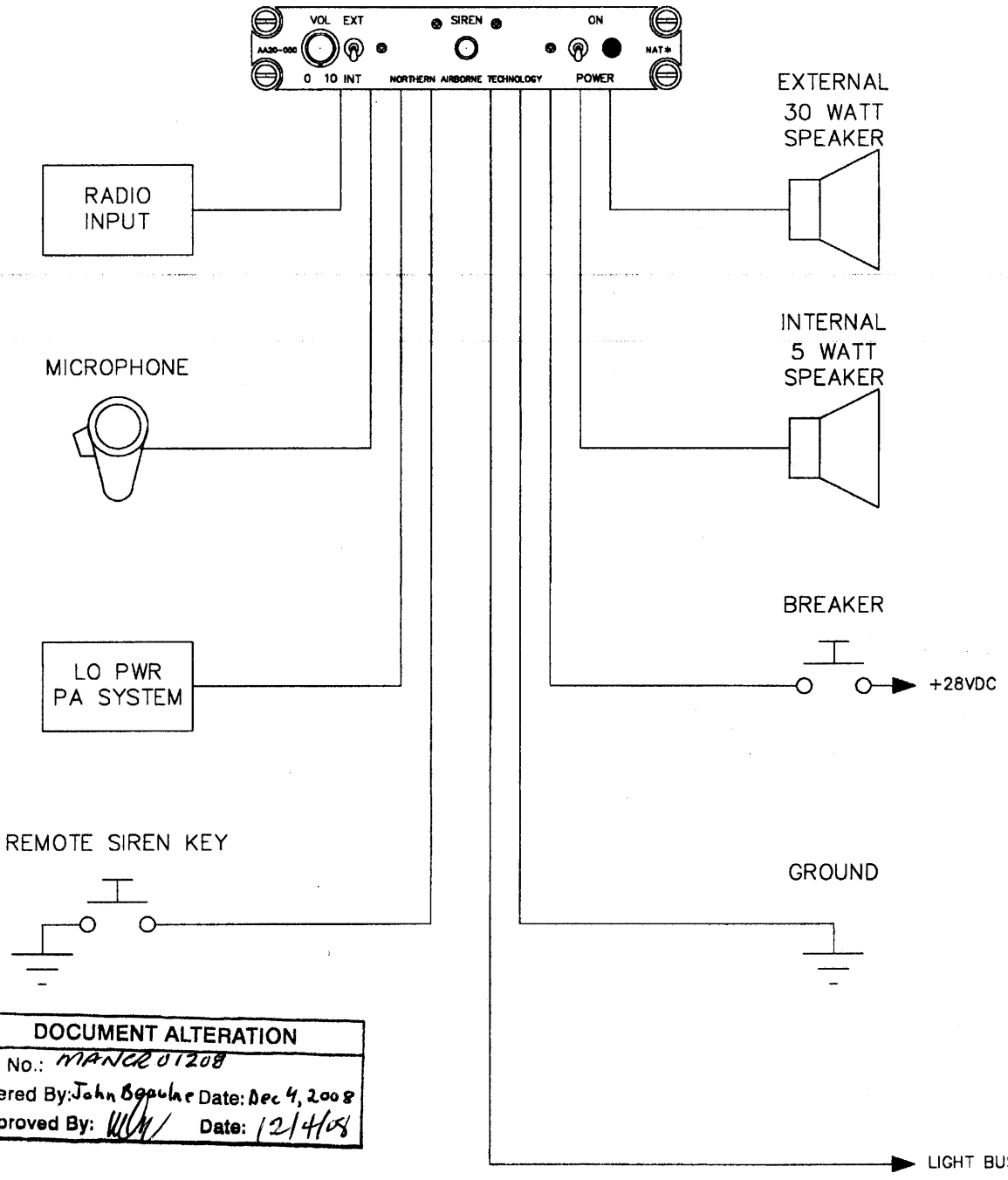
AA20–050 LOUDHAILER



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Altered By: John Beaulne Date: Dec 4, 2008

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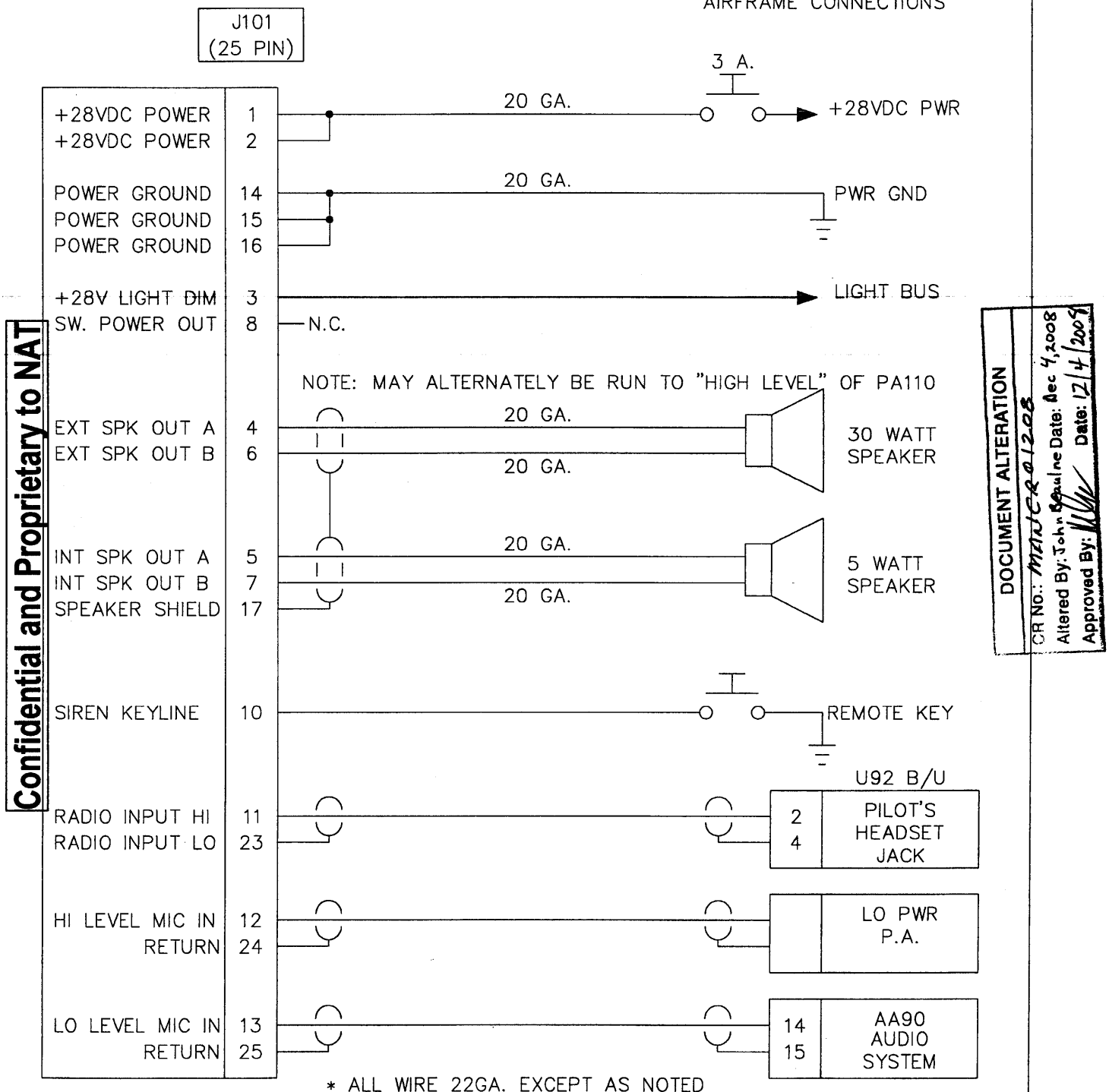
1.00	Dec 4/08.

NORTHERN AIRBORNE TECHNOLOGY LTD.
1839 1ST AVE. PRINCE GEORGE , B.C. V2L–2Y8

DESCRIPTION	PART NUMBER	DRAWING NUMBER
BLOCK DIAGRAM	AA20–050	302–20–050A
DATE	DRAWN BY	APPROVED BY
NOVEMBER 13/85	KEN VEITCH	NAT R&L

AA20-050 EXTERNAL CONNECTIONS



* ALL WIRE 22GA. EXCEPT AS NOTED

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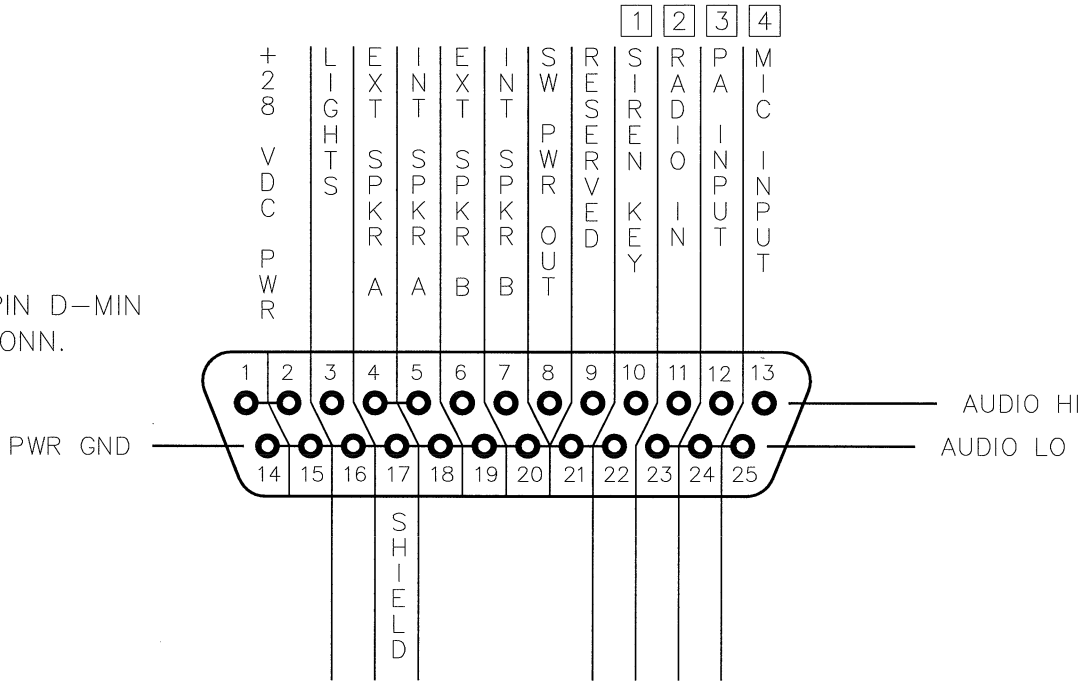
Altered By: John Pauline Date: Dec 4, 2008
Approved By: [signature] Date: 12/4/2008

REVISION	DATE
1.00	Dec 4/08

NORTHERN AIRBORNE TECHNOLOGY LTD.
1839 1ST AVE. PRINCE GEORGE , B.C. V2L-2Y8

DESCRIPTION	PART NUMBER	DRAWING NUMBER
INTERCONNECT	AA20-050	403-20-050A
DATE	DRAWN BY	APPROVED BY
NOVEMBER 8/85	KEN VEITCH	

J101
MALE 25 PIN D–MIN
CHASSIS CONN.



[1] GROUNDING PIN 10 WILL TRIGGER SIREN.

[2] PARALLEL WITH PILOT'S H/S IF USED.

[3] UP TO 5W PA INPUT FROM EXISTING SYSTEM.

[4] MIC INPUT MUST BE GROUNDED AT AUDIO CONTROLLER OR OTHER SINGLE POINT.

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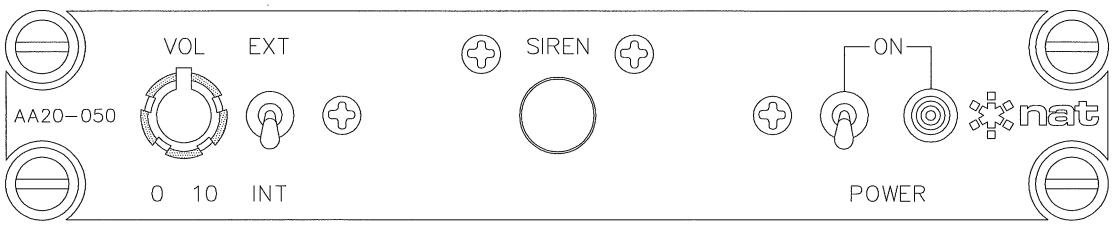
REVISION	DATE
1.00	NOV 29/90
1.01	FEB 14/96

*nat NORTHERN AIRBORNE TECHNOLOGY LTD.

DESIGNED BY	DESCRIPTION		
KV	PA/SIREN SYSTEM		
DRAWN BY	PART NUMBER	DRAWING TYPE	SHEET
M. SAWCHUK	AA20–050	CONNECTOR MAP	1/1
APPROVED BY	DRAWING NUMBER	FILE NUMBER	
NAT 107	AA20\050\405–0	AA20\050\405–0101	

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.10	REMOVE NORTHERN... ENGRAVING, FORMAT CHANGES	MAR 18/96	MWS



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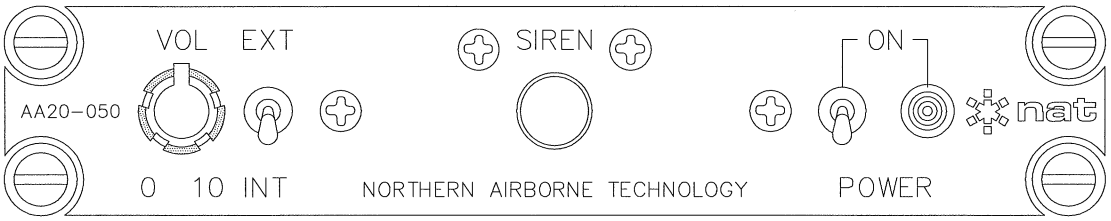
DESIGNED	KV
DRAWN	KV
DATE	NOV-13/85
CHECKED	NAT 106
APPROVED	NAT 107
FILE	905-0110.DWG

nat NORTHERN AIRBORNE TECHNOLOGY LTD.

TITLE: PA/SIREN SYSTEM

SIZE	CAGE CODE	PART NO.	REV.	SHEET
A	3AB01	AA20-050	1.10	1/2

DWG. TYPE	FACEPLATE	DWG. NO. AA20\050\905-0



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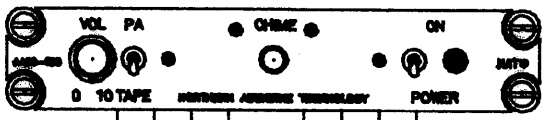
DESIGNED	–	nat NORTHERN AIRBORNE TECHNOLOGY LTD.					
DRAWN	TGM						
DATE	AUG 7/96	TITLE	PA/SIREN SYSTEM				
CHECKED	NAT PROD. 105						
APPROVED	NAT 107	SIZE A	CAGE CODE 3AB01	PART NO. AA20-050H		REV. 1.00	SHEET 1/2
FILE 905-0100.DWG		DWG. TYPE FACEPLATE		DWG. NO. AA20\050H\905-0			

AA20–430 CABIN PAGER



TAPE DECK

30 WATT SPEAKER

MICROPHONE & PA KEY

BREAKER

+28VDC

SIDETONE

GROUND

REMOTE CHIME KEY

LIGHT BUS

DOCUMENT ALTERATION
CR No.: MANCR01208
Altered By: John Beayine Date: Dec 4, 2008
Approved By: Date: 12/4/08

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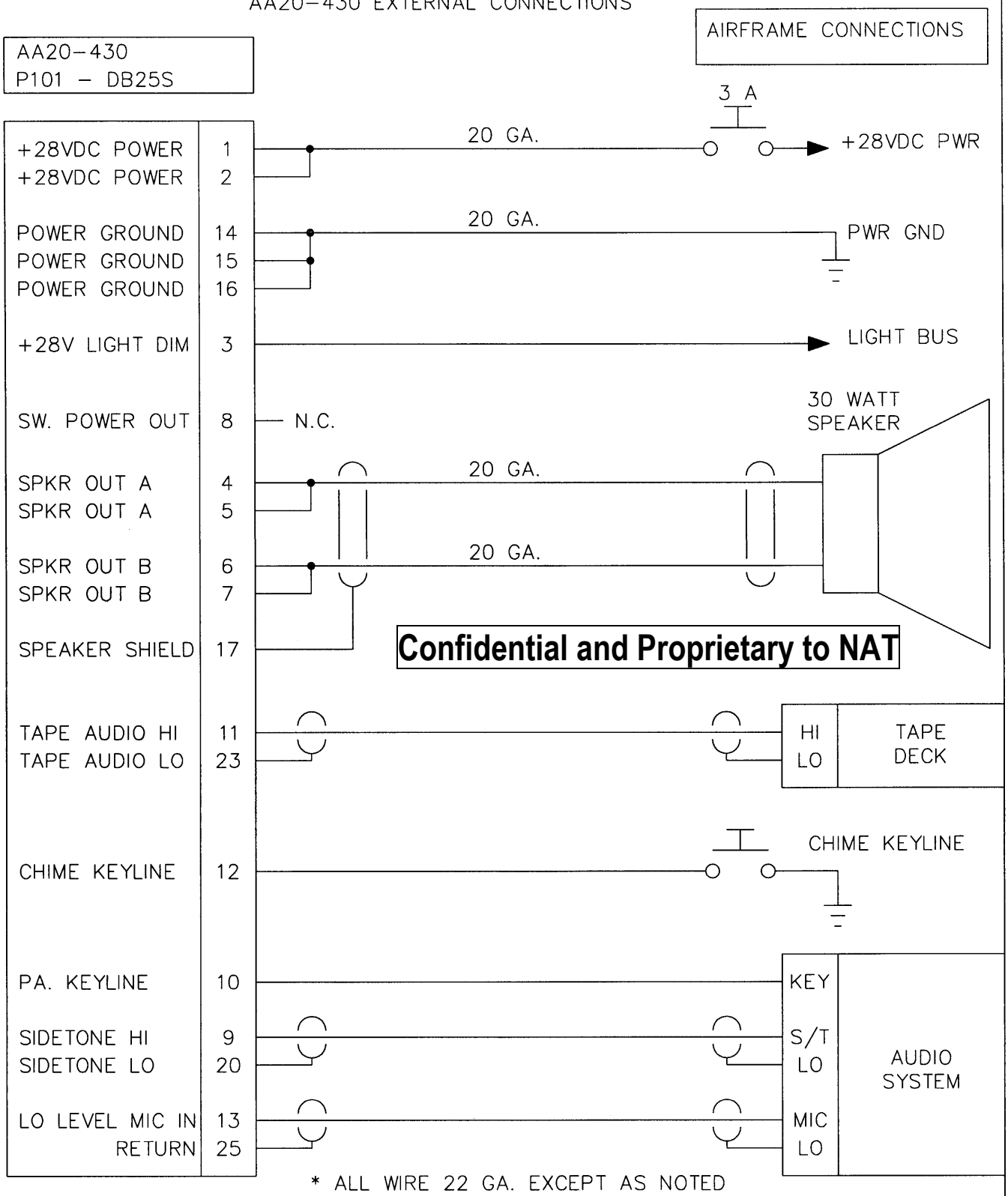
REVISION	DATE
1.00	Dec 4/08

NORTHERN AIRBORNE TECHNOLOGY LTD.
1839 1ST AVE. PRINCE GEORGE , B.C. V2L–2Y8

DESCRIPTION	PART NUMBER	DRAWING NUMBER
BLOCK DIAGRAM	AA20–430	302–20–430A
DATE	DRAWN BY	APPROVED BY
NOVEMBER 13/85	KEN VEITCH	

AA20-430 EXTERNAL CONNECTIONS



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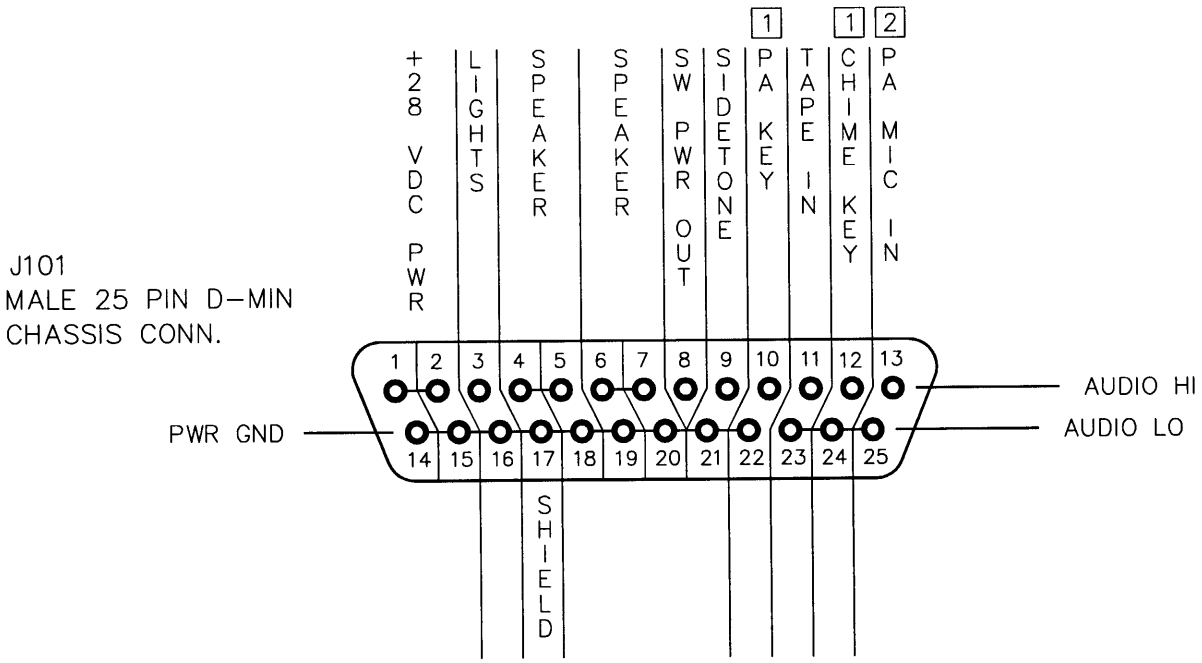
* ALL WIRE 22 GA. EXCEPT AS NOTED

REVISION	DATE
1.00	JULY 26/90
1.01	APR 4/95

*nat NORTHERN AIRBORNE TECHNOLOGY LTD.

DESIGNED BY	DESCRIPTION		
K. VEITCH	PA/CABIN PAGING SYSTEM		
DRAWN BY	PART NUMBER	DRAWING TYPE	SHEET
KV/LH	AA20-430	INTERCONNECT	1/1
APPROVED BY	DRAWING NUMBER	FILE NUMBER	
NAT PROD.	AA20\430\430-0	AA20\430\430-0101	



[1] GROUNDING PIN 10 + 12 WILL TRIGGER CHIME.

[2] MIC INPUT MUST BE GROUNDED AT AUDIO CONTROLLER OR OTHER SINGLE POINT.

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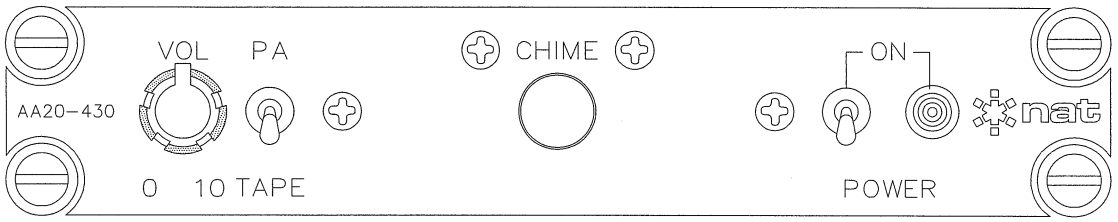
REVISION	DATE
1.00	NOV 29/90
1.01	FEB 14/96

*nat NORTHERN AIRBORNE TECHNOLOGY LTD.

DESIGNED BY	DESCRIPTION		
KV	PA/SIREN SYSTEM		
DRAWN BY	PART NUMBER	DRAWING TYPE	SHEET
M. SAWCHUK	AA20-430	CONNECTOR MAP	1/1
APPROVED BY	DRAWING NUMBER	FILE NUMBER	
NAT R&D	AA20\430\405-0	AA20\430\405-0101	

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.01	FORMAT CHANGES ONLY	MAR 8/96	MWS



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DESIGNED	KV	nat NORTHERN AIRBORNE TECHNOLOGY LTD.				
DRAWN	MWS					
DATE	JAN 25/91	TITLE PA/CABIN PAGING SYSTEM				
CHECKED	NAT PROD. 105					
APPROVED	NAT 107	SIZE A	CAGE CODE 3AB01	PART NO. AA20-430	REV. 1.01	SHEET 1/2
FILE 905-0101.DWG		DWG. TYPE FACEPLATE		DWG. NO. AA20\430\905-0		

Section 3 Operation

3.1 Introduction

Information in this section consists of functional and operational procedures for the AA20 Series PA/Siren System.

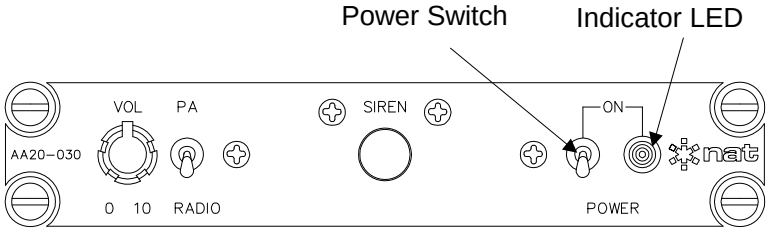
3.2 General Information

The AA20 PA/Siren System provides a central adjustment for internal and/or external aircraft paging functions. The AA20 is a self-contained mixer/amplifier which directly drives the cabin or external speaker(s). When turned on, the system is ready for operation and will accept audio feeds or a microphone input. An internally generated siren is also available and adjustable through the side of the controller. When the AA20 is turned on, a POWER KEY signal is generated. This signal is used to turn on the PA amp (if connected in system). The high current DC power to operate the PA110/220 is supplied by the aircraft.

3.3 Controls and Indicators

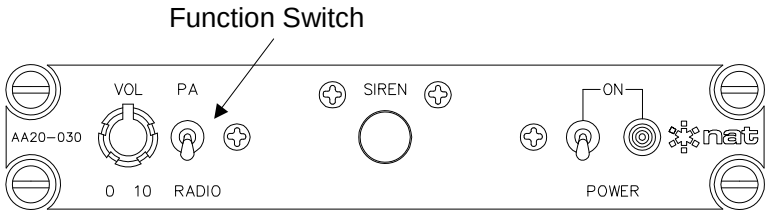
3.3.1 Power Up

To activate the AA20 PA/Siren system, flip the POWER toggle switch up to the ON position. The LED adjacent to the switch should illuminate.



3.3.2 Function Switch

The Function Switch is used to select the appropriate operational mode for the unit. These modes vary depending on the unit under consideration and are listed below.



Note: PA audio has priority in the AA20 system and it will be heard even if the panel switch is selected to RADIO or TAPE.

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3.3.2.1 AA20-030

On the AA20-030, the function switch selects between PA and Radio Operation.

PA Operation

For external PA/Siren systems or internal paging functions, set the function switch on the AA20-030 to PA. Key the microphone through the cyclic or hand mic switch and speak in a firm, clear manner.

Radio Operation

To set the system for radio rebroadcast functions, set the function switch on the AA20-030 to RADIO. All audio delivered from the source (typically pilot's or copilot's headset) will be broadcast from the PA system.

3.3.2.2 AA20-050

On the AA20-050 and AA20-050H, the function switch selects between Internal and External P/A. The siren is disabled when the function switch is set to Internal.

Internal PA Operation

For internal PA/Siren systems or paging functions, set the function switch on the AA20-050 to INT. Key the microphone through the cyclic or hand mic switch and speak in a firm, clear manner.

External PA Operation

For external PA/Siren systems or paging functions, set the function switch on the AA20-050 to EXT. Key the microphone through the cyclic or hand mic switch and speak in a firm, clear manner.

3.3.2.3 AA20-430

On the AA20-430, the function switch selects between PA and Tape Operation.

PA Operation

For internal paging functions, set the function switch on the AA20-430 to PA. Key the microphone through the cyclic or hand mic switch and speak in a firm, clear manner.

Tape Operation

To set the system for tape functions, set the function switch on the AA20-430 to TAPE. All audio delivered from the source will be broadcast from the PA system.

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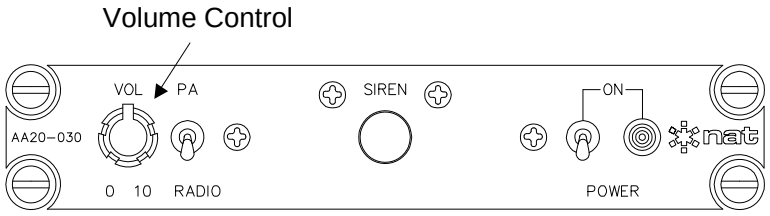
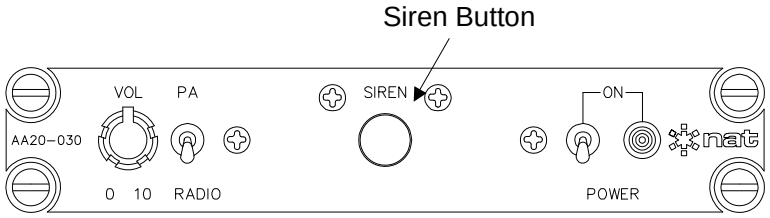
3.3.3 Volume Control

The volume level is set by the VOL pot on the front of the AA20. For external paging and rebroadcast operations, the volume should always be set between half and full level. The setting for internal paging must be determined by experiment to provide the desired coverage in the passenger area and to prevent feedback.



3.3.4 External Siren

The external siren is operated by depressing the SIREN button on the front of the AA20, or by a remote keying switch. The siren will sound only as long as the button is depressed.



If the siren does not suit the specific requirements of a given installation, the base tone, sweep rate and siren level may be adjusted by your installer.

3.3.5 Remote Power Switch

The AA20 provides a switched 28 Vdc output that can be used to control the dc power circuit of a PA110 or PA220.

Section 3 ends

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